

ABSTRACT

It is an object to provide optical information recording media enabling the recording at high speeds and high densities, such as onto DVD-R discs or similar, of optical information, optimizing the shape of meandering land pre-pits 21, increasing clearness of diffraction of laser light 9 by the land pre-pits 21 to obtain a satisfactory land pre-pit signal, and simultaneously reducing RF readout errors for recorded pits and readout errors for land pre-pits 21, focusing on optimization of the size of the inside protruding portion 23 and outside protruding portion 25 relative to the spot 9S of the laser light 9 with respect to the shape and size of the land pre-pits 21, and when e is the base of natural logarithms, the media is characterized in that the inside edge portions 22 of the inside protruding portion 23 and the outside edge portions 24 of the outside protruding portion 25 of the land pre-pits 21 are positioned within the range of the spot diameter $E2$ in the $1/e^2$ portion of the Gaussian energy distribution of the spot 9S of laser light 9. Further, with respect to the distance L_{in} between the two inside edge portions 22 of the inside protruding portion 23 of the land pre-pits 21, the distance L_{out} between the two outside edge portions 24 of the outside protruding portion 25 of the land pre-pits 21, and the basic length T expressing the lengths of recorded pits, the media is further characterized in that the distances L_{in} and L_{out} are in the range $3T$ to $6T$; that $0.40\ \mu\text{m} \leq L_{in} \leq 0.80\ \mu\text{m}$ and $0.40\ \mu\text{m} \leq L_{out} \leq 0.80\ \mu\text{m}$; and that, when the

inside protruding length in the radial direction on the inside of the arc shape of land pre-pits 8 is R_{in} and the outside protruding length is R_{out} , $0.120 \mu\text{m} \leq R_{in} \leq 0.182 \mu\text{m}$ and $0.100 \mu\text{m} \leq R_{out} \leq 0.250 \mu\text{m}$.